REMARKS

This application has been reviewed in light of the Office Action dated December 12, 2005. Claims 1-3 and 17-22 are pending in this application. Claims 1, 17, and 20, the independent claims, have been amended to define Applicant's invention more clearly. Favorable reconsideration is requested.

Claims 1-3 and 17-22 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 5,889,928 to Nakamura et al. (hereinafter "Nakamura") in view of U.S. Patent No. 5,978,506 to Murayama et al. (hereinafter "Murayama '506") and U.S. Patent No. 5,136,662 to Maruyama et al. (hereinafter "Maruyama '662").

As is discussed in more detail in the present application, Applicant's invention is concerned with the task of improving compensation for changes in the response of various portions of a multi-function peripheral resulting from fluctuations in environmental conditions, or from the simple passage of time.

Claim 1 is directed to an image forming apparatus for outputting an image based on inputted image data. The apparatus includes reading means, creation means, correction means, and output means. The reading means reads an image and generates image data, and the creation means creates a correction table for correcting the density characteristics of the image data. The correction means corrects the density characteristics of the image data from the reading means, based on the correction table. The output means outputs an image based on the image data corrected by the correction means.

The correction table is created based on a train of data generated by the reading means by reading plural gradient patterns outputted by the output means, and the output plural gradient patterns are disposed in point symmetry with respect to a center

position of the image. The correction table for correcting the image data read by the reading means is created by performing a smoothing process using some pieces of data whose number changes depending on the position of data in the generated train of data. The number of pieces of data in the smoothing process is determined based on density reproduction characteristics of the image forming apparatus.

One notable feature of Claim 1 is that the number of pieces of data in the smoothing process is determined based on density reproduction characteristics of the image forming apparatus. Support for this feature is found in the originally filed specification at, e.g., page 25, lines 16-20.[1]

Nakamura, as understood by Applicant, relates to an output gradation adjustment method in an image output apparatus. Fig. 4 is a flow chart illustrating an output gradation adjustment processing, and Fig. 7 is a flow chart illustrating the gradation correction curve data forming processing at step S8 of Fig. 4. At step S86 of Fig. 7 there is executed, on an obtained "fourth preliminary gradation correction curve," a correction processing for alleviating a sudden change in gradation or a gradation jump of the fourth preliminary gradation correction curve.

Murayama '506, as understood by Applicant, relates to color balancing colorants independent of their colorant composition ratios over an output intensity range. Referring to Fig. 11, in a test pattern output or color patch 300, a first group of two sets Type 1 (310) and Type 2 (320) are duplicated on the other side of the sheet, and the second group of the two sets 330 and 340 are reversed as in a mirror image.

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[1]/It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

Muriyama '662, as understood by Applicant, relates to an image processor for sequential processing of successive regions of an image. According to that patent, when video data obtained from a video camera is to be utilized to control the operation of an industrial robot (e.g., data representing a source image showing a workpiece), the video data can be pre-processed to be converted to labeled data of the form shown in Fig. 15. Here, each pixel of a background region of the image is represented in the labeled data by a fixed numeric value, which in this example is 0. A first object (i.e., a region of the original image which differs from the background region in a predetermined manner) has each pixel therein represented by another numeric value, i.e. 1. Similarly, each of other objects appearing in the original image is represented by a region formed of label numeral values, 2, 3, 4, etc.

Thus, Nakamura discusses that gradation skip on a gradation correction curve is apparently reduced. Murayama '506 relates to color balancing, and Murayama '662 discusses that video data input from a video camera is labeled. However, nothing in Nakamura, Murayama '506, or Murayama '662, whether considered separately or in any permissible combination (if any) would teach or suggest that the number of pieces of data in a smoothing process used in creating a correction table for correcting read image data is determined based on density reproduction characteristics of the image forming apparatus, as recited in Claim 1.

By virtue of the features of Claim 1, when a correction table is created in regard to an image forming apparatus, in which more noise occurs at low density, it can be judged that a smoothing process using a small number of pieces of data is not appropriate, since the low density portion of the correction table is easily influenced by the noise. Based on this judgment, in the smoothing process at the low density portion of the

correction table, it is possible to create a highly accurate correction table using a large number of pieces of data. Applicant submits that such a significant effect of the apparatus of Claim 1 cannot be achieved by Nakamura, Murayama '506, or Murayama '662, or any hypothetical combination thereof (even assuming such to be permissible).

Accordingly, Applicant submits that Claim 1 is patentable over the cited art, and respectfully requests withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 17 and 20 each recite features which are similar in many relevant respects to those discussed above with respect to Claim 1 and therefore are also believed to be patentable over Nakamura, Murayama '506, and Murayama '662 for at least the reasons discussed above.

The other rejected claims in this application depend from one or another of the independent claims discussed above and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

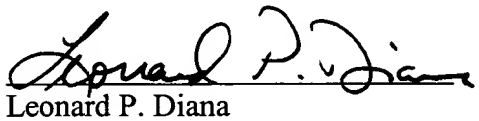
In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

No petition to extend the time for response to the Office Action is deemed necessary for the this Amendment. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

CONCLUSION

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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